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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
RAWLINGS, STEPHEN L	

ART UNIT	PAPER NUMBER
1642	

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/977,283	REED, GUY L.	
	Examiner	Art Unit	
	Stephen L. Rawlings, Ph.D.	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *April 21, 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) *2-4,6-11,13,16 and 18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5,12,14,15 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *20020925*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The election without traverse filed April 21, 2004 is acknowledged and has been entered. Applicant has elected the inventions of group XVII, claims 1, 5, 12, 14, 15, and 17, insofar as the claims are drawn to monoclonal antibody 49C9, a method for making said monoclonal antibody, a hybridoma cell line that produces said antibody, and a method for making said hybridoma cell line.

2. Claims 1-18 are pending in the application. Claims 2-4, 6-11, 13, 16, and 18 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on April 21, 2004.

3. Claims 1, 5, 12, 14, 15, and 17, insofar as the claims are drawn to the elected invention, are currently under prosecution.

Information Disclosure Statement

4. The information disclosure filed September 25, 2002 has been considered. An initialed copy is enclosed.

Specification

5. The specification is objected to because the use of numerous improperly demarcated trademarks has been noted in this application. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner that might adversely affect their validity as trademarks. See MPEP § 608.01(v).

Examples of improperly demarcated trademarks include Phosphorimager™ (page 22, line 19, and page 32, line 23), Bard-Parker™ (page

37, line 15), GeneAmp™ (page 47, line 10), Qiagen™ (page 57, line 30), and Spectrozyme™ (page 70, line 11).

Appropriate correction is required. Each letter of a trademark should be capitalized or otherwise the trademark should be demarcated with the appropriate symbol indicating its proprietary nature (e.g., ™, ®), and accompanied by generic terminology. Applicants may identify trademarks using the "Trademark" search engine under "USPTO Search Collections" on the Internet at http://www.uspto.gov/web/menu/search.html.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

This is a written description rejection.

Claim 1 is drawn to an "immunologic molecule" that binds both human and nonhuman circulating and fibrin cross-linked α2-antiplasmin.

The specification teaches that the α2-antiplasmin-binding molecule to which claim 1 is directed can be any ligand, including an antibody or antigen-binding fragment thereof, that binds both human and nonhuman circulating and fibrin cross-linked α2-antiplasmin; see, e.g., page 14, lines 22 and 23. Although the specification defines "immunologic molecule" as referring to "polypeptides comprising the binding region of a monoclonal antibody" (page 14, lines 23 and 24), the claim has been given it broadest, reasonable interpretation, because the ordinary meaning of the term "immunologic" is "pertaining to immunology" and

accordingly the claim reads on any molecule pertaining to immunology that binds both human and nonhuman circulating and fibrin cross-linked α2-antiplasmin. As most all naturally occurring molecules are pertinent to immunology, in one aspect or another, the claim therefore encompasses a genus of ligands that can vary markedly in both structure and function, but which commonly bind both human and nonhuman circulating and fibrin cross-linked α2-antiplasmin.

While the specification describes an antibody, or an antigen-binding fragment thereof, as a member of the genus of ligands that commonly bind both human and nonhuman circulating and fibrin cross-linked α2-antiplasmin, the description of the antibody, or antigen-binding fragment thereof, is not an adequate of the genus, as a whole. The genus to which the claim is directed comprises α2-antiplasmin-binding molecules that vary in structure and function, particularly when compared to an antibody, and the specification has not described which particularly identifying structural and functional features of the antibody are common to at least a substantial number of the members of the genus of ligands. Absent an adequate written description of at least a substantial number of the ligands to which the claims are directed and/or absent a description of particularly identifying structural and functional features that are common to at least a substantial number of the ligands to which the claims are directed, the disclosure would not reasonably convey to the skilled artisan that Applicant had possession of the claimed invention, because the skilled artisan could not instantly envision, recognize, or distinguish at least a substantial number of the ligands to which the claims are directed.

MPEP § 2163.02 states, "[a]n objective standard for determining compliance with the written description requirement is, 'does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed' ". The courts have decided:

> The purpose of the "written description" requirement is broader than to merely explain how to "make and use"; the applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the "written description" inquiry, *whatever is now claimed*.

See *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Federal Circuit, 1991). Furthermore, the written description provision of 35 USC § 112 is severable from its enablement provision; and adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it. See *Fiers v. Revel*, 25 USPQ2d 1601, 1606 (CAFC 1993) and *Amgen Inc. V. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016.

Furthermore, in deciding *The Reagents of the University of California v. Eli Lilly* (43 USPQ2d 1398-1412), the Court held that a generic statement that defines a genus of nucleic acids *by only their functional activity* does not provide an adequate written description of the genus. By analogy, a generic statement that defines a genus of α2-antiplasmin-binding molecules by only their common ability bind both human and nonhuman circulating and fibrin cross-linked α2-antiplasmin does not serve to adequately describe the genus as a whole. The Court indicated that while applicants are not required to disclose every species encompassed by a genus, the description of a genus is achieved by the recitation of a precise definition of a representative number of members of the genus, such as by reciting the structure, formula, chemical name, or physical properties of those members, rather than by merely reciting a wish for, or even a plan for obtaining a genus of molecules having a particular functional property. The recitation of a functional property alone, which must be shared by the members of the genus, is merely descriptive of what the members of genus must be capable of doing, not of the substance and structure of the members.

The Guidelines for Examination of Patent Applications Under the 35 U.S.C. 112, paragraph 1, ``Written Description" Requirement (66 FR 1099-1111, January 5, 2001) state, "[p]ossession may be shown in a variety of ways including description of an actual reduction to practice, or by showing the invention was 'ready for patenting' such as by disclosure of drawings or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying characteristics sufficient to show that the applicant was

in possession of the claimed invention" (*Id.* at 1104). The *Guidelines* further state, "[f]or inventions in an unpredictable art, adequate written description of a genus which embraces widely variant species *cannot* be achieved by disclosing only one species within the genus" (Id. at 1106); accordingly, it follows that an adequate written description of a genus cannot be achieved in the absence of a disclosure of at least one species within the genus. Because the claims encompass a genus of variant species, an adequate written description of the claimed invention must include sufficient description of at least a representative number of species by actual reduction to practice, reduction to drawings, or by disclosure of relevant, identifying characteristics sufficient to show that Applicant was in possession of the claimed genus. However, factual evidence of an actual reduction to practice has not been disclosed by Applicant in the specification; nor has Applicant shown the invention was "ready for patenting" by disclosure of drawings or structural chemical formulas that show that the invention was complete; nor has Applicant described distinguishing identifying characteristics sufficient to show that Applicant had possession of the claimed invention at the time the application was filed.

8. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 12 is drawn to the monoclonal antibody 49C9.

It is unclear if a cell line that produces an antibody having the exact structural and chemical identity of the monoclonal antibody 49C9 to which the claims refer is known and publicly available, or can be reproducibly isolated without undue experimentation. Clearly, without access to a hybridoma cell line producing the monoclonal antibody 49C9 to which the claims refer, it would not be possible to practice the claimed invention, because it would not be possible to

make the monoclonal antibody. Therefore, a suitable deposit for patent purposes is suggested. Without a publicly available deposit of the above cell line, one of ordinary skill in the art could not be assured of the ability to practice the invention as claimed. Exact replication of: (1) the claimed cell line; (2) a cell line which produces the chemically and functionally distinct antibody claimed; and/or (3) the claimed antibody's amino acid or nucleic acid sequence is an unpredictable event.

Applicant has not referred to biological deposits of the a hybridoma or recombinant cell line producing the monoclonal antibody 49C9 to which claims 12, 14, 15, and 17 refer, but a suitable deposit for patent purposes is suggested, since the deposits would satisfy the enablement requirements of 35 U.S.C. § 112, first paragraph (see 37 C.F.R. 1.801-1.809).

If a deposit has been made under the provisions of the Budapest Treaty, filing of an affidavit or declaration by applicant or assignees or a statement by an attorney of record who has authority and control over the conditions of deposit over his or her signature and registration number stating that the deposit has been accepted by an International Depository Authority under the provisions of the Budapest Treaty, that all restrictions upon public access to the deposits will be irrevocably removed upon the grant of a patent on this application and that the deposit will be replaced if viable samples cannot be dispensed by the depository is required. This requirement is necessary when deposits are made under the provisions of the Budapest Treaty as the Treaty leaves this specific matter to the discretion of each State.

If the deposit has not been made under the Budapest treaty, then an affidavit or declaration by Applicant or someone associated with the patent owner who is in a position to make such assurances, or a statement by an attorney of record over his or her signature must be made, stating that the deposit has been made at an acceptable depository and that the criteria set forth under 37 CFR §§ 1.801-1.809 have been met.

If the original deposit is made after the effective filing date of an application for patent, the applicant should promptly submit a verified statement from a person in a position to corroborate the fact, and should state, that the biological material which is deposited is a biological material specifically identified in the application as filed, except if the person is an attorney or agent registered to practice before the Office, in which the case the statement need not be verified. See MPEP 1.804(b).

9. Claims 1, 5, 14, 15, and 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 is directed to an immunologic molecule that binds both human and nonhuman circulating and fibrin cross-linked α2-antiplasmin. Claims 5 and 15 are drawn to a monoclonal antibody and a hybridoma cell line producing said monoclonal antibody, respectively, which monoclonal antibody binds both human and nonhuman circulating and fibrin cross-linked α2-antiplasmin. Claims 14 and 17 are methods for making the monoclonal antibody of claim 5 or a hybridoma cell line that produces that monoclonal antibody of claim 5, respectively.

The amount of guidance, direction, and exemplification set forth in the disclosure would not be sufficient to enable the skilled artisan to make and use the claimed invention, commensurate in scope with the claims, without having to first perform an undue amount of additional experimentation that is beyond the realm of routine experimentation. Factors to be considered in determining whether undue experimentation is required are summarized in *Ex parte Forman*, 230 USPQ 546 (BPAI 1986). These factors include the nature of the invention, the state of the prior art, the relative skill of those in the art, the amount of direction or guidance disclosed in the specification, the presence or absence of working examples, the predictability or unpredictability of the art, the breadth of

the claims, and the quantity of experimentation which would be required in order to practice the invention as claimed.

The Nature of the Invention:

The invention, as claimed, is a genus of ligands, including an antibody or antigen-biding fragment thereof, that can vary markedly in structure and function, but which commonly bind both human and nonhuman circulating and fibrin cross-linked α2-antiplasmin.

The State of the Prior Art:

The prior art teaches antibodies, such as RWR, that bind human circulating and fibrin cross-linked α2-antiplasmin, but which do not evidently cross-react with circulating and fibrin cross-linked α2-antiplasmin from other non-human species; see, e.g., US Patent No. 5,372,812 A (of record). Additionally, the prior art teaches antibodies, such as 1F2, that apparently bind fibrin cross-linked α2-antiplasmin and also bind circulating α2-antiplasmin, albeit without substantially inhibiting its activity (as compared to the inhibitory effect of RWR), regardless of the source of α2-antiplasmin; see, e.g., US Patent No. 5,582,862 A (of record). Otherwise, while the prior art teaches additional antibodies that bind α2-antiplasmin, the prior art is generally silent as to whether or not the antibody binds both circulating and fibrin cross-linked α2-antiplasmin and whether or not the antibody cross-reacts with circulating and fibrin cross-linked α2-antiplasmin from non-human species.

Apparently, the prior art does not teach ligands, which are not antibodies or antigen-binding fragments thereof, that bind human and non-human circulating and fibrin cross-linked α2-antiplasmins.

The Relative Skill of those in the Art:

Although high, the relative skill of those in the art is such that, absent a sufficient disclosure to enable the use of the claimed invention, an undue amount

of additional experimentation would have to be performed before the claimed invention, commensurate in scope with the claims, can be made and used.

The Amount of Direction or Guidance Disclosed in the Specification and The Presence or Absence of Working Examples:

The specification teaches monoclonal antibodies, e.g., monoclonal antibody 49C9, that bind circulating and fibrin cross-linked α2-antiplasmin from human, baboon, green monkey, dog, Cynomolgus monkey, marmoset, and ferret; however, the antibodies do not bind all non-human circulating and fibrin cross-linked α2-antiplasmins, since the specification teaches the antibodies do not bind circulating and fibrin cross-linked α2-antiplasmin from guinea pig and gerbil.

The specification fails to provide sufficient guidance and direction to enable the skilled artisan to produce an antibody that binds all, i.e., human and non-human circulating and fibrin cross-linked α2-antiplasmins.

The specification fails to provide sufficient guidance and direction to enable the skilled artisan to produce any other type of ligand, i.e., a ligand that is not an antibody or an antigen-binding fragment thereof, which binds human and non-human circulating and fibrin cross-linked α2-antiplasmins.

The Predictability or Unpredictability of the Art:

As evidenced by the teachings of the specification at, for example, page 36 (Table 2), the art is characterized by a level of unpredictability such that the skilled artisan cannot predict whether immunizing an animal with α2-antiplasmin, or a fragment thereof, from any given animal will produce an antibody that binds circulating and fibrin cross-linked α2-antiplasmin from all animals, including human.

The Breadth of the Claims:

As explained in the written description rejection above, because most all naturally occurring molecules are pertinent to immunology, in one aspect or another, the claims are broadly interpreted as encompassing a genus of ligands that can vary markedly in both structure and function, but which commonly bind both human and nonhuman circulating and fibrin cross-linked α2-antiplasmin.

The Quantity of Experimentation Required:

An undue amount of additional experimentation would have to be performed before the claimed invention, reasonably commensurate in scope with the claims, could be made and used by the skilled artisan, since the skilled artisan cannot predict whether immunizing an animal with human or nonhuman α2-antiplasmin, or a fragment thereof, will produce an antibody that binds all circulating and fibrin cross-linked α2-antiplasmins, whether the circulating and fibrin cross-linked α2-antiplasmin be human or nonhuman. In each and every instance, an antibody produced by immunizing an animal with α2-antiplasmin, or a fragment thereof, would need to be tested to determine if the antibody binds all circulating and fibrin cross-linked α2-antiplasmins, whether the circulating and fibrin cross-linked α2-antiplasmin be human or nonhuman, since the specification teaches it is not possible to predict whether any antibody produced by such a process will have such broad binding activity.

The specification does not teach the skilled artisan to make an antibody that binds all circulating and fibrin cross-linked α2-antiplasmins, whether the circulating and fibrin cross-linked α2-antiplasmin be human or nonhuman; and the skilled artisan cannot predict whether any given antibody will have such a broad binding activity.

Defining a substance by its principal biological activity amounts to an alleged conception having no more specificity than that of a wish to know the identity of any material with that biological property. See *Colbert v. Lofdahl*, 21 USPQ2d, 1068, 1071 (BPAI 1992). In deciding *In re Fisher*, 1666 USPQ 19 24 (CCPA 1970), the Court indicated the more unpredictable an area is, the more

specific enablement is necessary in order to satisfy the statute. Reasonable correlation must exist between the scope of the claims and scope of enablement set forth. Therefore, the claims would merely serve as an invitation to one skilled in the art to isolate an antibody, or some other ligand, having the ability to bind all circulating and fibrin cross-linked α2-antiplasmins, whether the circulating and fibrin cross-linked α2-antiplasmin be human or nonhuman. The Court has decided:

> Tossing out the mere germ of an idea does not constitute enabling disclosure. While every aspect of a generic claim certainly need not have been carried out by an inventor, or exemplified in the specification, reasonable detail must be provided in order to enable members of the public to understand and carry out the invention.

Genentech Inc. v. Novo Nordisk A/S, 42 USPQ2d 1001, 1005 (CAFC 1997).

Regarding the ligands that are encompassed by the claims, which are not antibodies or antigen-binding fragments thereof, an undue amount of additional, non-routine experimentation would have to be performed to make any such ligand, since the specification provides no guidance, direction, or exemplification that might enable the skilled artisan to make and use such ligands.

In conclusion, upon careful consideration of the factors used to determine whether undue experimentation is required, in accordance with *Ex parte Forman*, 230 USPQ 546 (BPAI 1986), the amount of guidance, direction, and exemplification disclosed by Applicant is not deemed sufficient to enable the skilled artisan to use the claimed invention without a need to perform an undue amount of additional experimentation.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1, 5, 14, 15, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 5, 14, 15, and 17 are indefinite because claim 1 recites, "fibrin crosslinked α2-antiplasmins". The recitation in claim 1 renders the claims indefinite because it cannot be determined unambiguously whether the claim requires the immunologic molecule to be capable of binding to fibrin, which is cross-linked to α2-antiplasmin, or to α2-antiplasmin, which is cross-linked to fibrin, or perhaps to an epitope produced upon formation of a cross-linked complex comprised of fibrin and α2-antiplasmin. Although the disclosure suggests the claimed invention is an immunologic molecule that binds α2-antiplasmin, whether the α2-antiplasmin molecule is circulating or cross-linked to fibrin, and not to fibrin or an epitope that is formed upon cross-linking fibrin and α2-antiplasmin, given the ambiguity of the claim 1, the claims do not clearly and distinctly claim this subject matter. Accordingly, the skilled artisan would not be reasonably apprised of the metes and bounds of the subject matter that Applicant regards as the invention, so as to meet the requirements set forth under 35 USC § 112, second paragraph.

Claims 1, 5, 14, 15, and 17 are indefinite because claim 1 recites, "capable of binding to both (1) human and *nonhuman* circulating α2-antiplasmins and (2) human and *nonhuman* fibrin crosslinked α2-antiplasmins" (italicized for emphasis). The recitation in claim 1 renders the claims indefinite because it cannot be determined unambiguously whether the immunologic molecule is required by the claim to be capable of binding to any one, some, or all non-human α2-antiplasmins. Given this ambiguity, the skilled artisan would not be reasonably apprised of the metes and bounds of the subject matter that Applicant regards as the invention, so as to meet the requirements set forth under 35 USC § 112, second paragraph.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Moroi et al. (*J. Biol. Chem.* **251**: 5956-5965, 1976).

Claim 1 is drawn to an immunologic molecule antibody that binds both human and nonhuman circulating α2-antiplasmin and human and nonhuman α2-antiplasmin, which is cross-linked to fibrin. The claim reads on a polyclonal antibody that binds α2-antiplasmins.

Moroi et al. teaches a polyclonal antibody that binds α2-antiplasmin; see entire document, particularly page 5958 (column 1).

Absent a showing of any difference, the polyclonal antibody of the prior art is deemed the same as the claimed immunologic molecule, since, given the typical binding promiscuity of polyclonal antibodies, the polyclonal serum of the prior art is reasonably presumed to comprise an antibody that binds an epitope of α2-antiplasmin, which is present on human and non-human α2-antiplasmins and which is present on both circulating α2-antiplasmin and α2-antiplasmin that is cross-linked to fibrin.

14. Claims 1, 5, 14, 15, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 5,582,862 A (of record).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed

but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

US Patent No. 5,582,862 A ('862) teaches antibodies that bind to and inhibit fibrin cross-linked α2-antiplasmin; see entire document (e.g., column 10, lines 3-12; and Figure 3). '862 teaches methods for making the antibody and a hybridoma cell line that produce the antibody; see, e.g., columns 8 and 9, Example 2.

Although the inhibitory activity of the antibody is relatively low, one of the antibodies, namely the monoclonal antibody 1F2 is capable of at least partially inhibiting soluble α2-antiplasmin and therefore it is evident that monoclonal antibody 1F2 is capable of binding both fibrin cross-linked α2-antiplasmin and circulating α2-antiplasmin; see, e.g., Figure 4.

'862 does not expressly teach that the antibody is capable of binding a α2-antiplasmin from a non-human animal; however, given the vast number of non-human animals, it seems very probable that the antibody of the prior art cross-reacts with α2-antiplasmin from another at least one species of non-human animal. Because the term "patient" (see, e.g., claim 13) is not defined to exclude non-human patients, the antibody can therefore be reasonably presumed to be capable of binding human and non-human α2-antiplasmins.

For each of these reasons, absent a showing of any difference, the antibody of the prior art is deemed the same as the claimed antibody.

15. Claims 1, 5, 14, 15, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 5,831,031 A (of record).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application

and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

US Patent No. 5,831,031 A ('031) teaches antibodies that bind to and inhibit fibrin cross-linked α2-antiplasmin; see entire document (e.g., column 10, lines 8-17; and Figure 3). '862 teaches methods for making the antibody and a hybridoma cell line that produce the antibody; see, e.g., columns 8 and 9, Example 2.

Although the inhibitory activity of the antibody is relatively low, one of the antibodies, namely the monoclonal antibody 1F2 is capable of at least partially inhibiting soluble α2-antiplasmin and therefore it is evident that monoclonal antibody 1F2 is capable of binding both fibrin cross-linked α2-antiplasmin and circulating α2-antiplasmin; see, e.g., Figure 4.

'031 does not expressly teach that the antibody is capable of binding a non-human α2-antiplasmin; however, given the vast number of non-human animals, it seems very probable that the antibody of the prior art cross-reacts with α2-antiplasmin from another at least one species of non-human animal.

In addition, because the term "α2-antiplasmin" (see, e.g., claim 1 of the prior art) is not defined to exclude α2-antiplasmin from non-human patients, the antibody is reasonably presumed to be capable of binding most α2-antiplasmins, including α2-antiplasmins from human and non-human animals.

For each of these reasons, absent a showing of any difference, the antibody of the prior art is deemed the same as the claimed antibody.

Double Patenting

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

17. Claims 1, 5, 14, 15, and 17 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,114,506 A. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter encompassed by the instant application and the claims of the patent are nearly the same, since the claims of the instant application are drawn to an immunologic molecule, including a monoclonal antibody, which binds both human and non-human α2-antiplasmin and human and non-human fibrin cross-linked α2-antiplasmin, a method for making such a monoclonal antibody using conventional hybridoma technology, and a method for making a hybridoma that produces such a monoclonal antibody, whereas the claims of the patent are drawn to an antibody, including a chimeric or humanized antibody, which binds both human and non-human α2-antiplasmin and human and non-human fibrin cross-linked α2-antiplasmin.

18. Claims 1, 5, 14, 15, and 17 are directed to an invention not patentably distinct from claims 1-8 of commonly assigned U.S. Patent No. 6,114,506 A. Specifically, although the conflicting claims are not identical, they are not

patentably distinct from each other for the reason set forth above in the obviousness-type double patenting rejection.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302). Commonly assigned U.S. Patent No. 6,114,506 A, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee is required under 35 U.S.C. 103(c) and 37 CFR 1.78(c) to either show that the conflicting inventions were commonly owned at the time the invention in this application was made or to name the prior inventor of the conflicting subject matter. Failure to comply with this requirement will result in a holding of abandonment of the application.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

Conclusion

19. No claims are allowed.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen L. Rawlings, Ph.D. whose telephone number is (571) 272-0836. The examiner can normally be reached on Monday-Friday, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew can be reached on (571) 272-0787. The fax

phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen L. Rawlings, Ph.D.
Examiner
Art Unit 1642

slr
July 20, 2004

SUPERVISORY PATENT EXAMINER
TC 1600
7/21/04